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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,960	07/25/2006	Hideharu Hasegawa	427-108	6531

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EXAMINER	
ZIMMER, ANTHONY J	
ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
05/01/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,960	HASEGAWA ET AL.	
	Examiner	Art Unit	
	ANTHONY J. ZIMMER	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4 and 5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 4, and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/23/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 4, and 5 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP'520.

In regard to claims 5 and 4, JP'520 teaches treating an exhaust gas containing silane (a silicon hydride) with granulated (particulate) calcium oxide/calcium hydroxide gas treatment agent. Though it is not stated in JP'520 that the agent has a porous structure, a surface area of greater than 1 m^2/g, or a void fraction of 10-50% by volume, its preparation method includes a calcination step which provides the required porous structure and void fraction and produces a surface area in the broad range of the claim. See Examples 1-3 and the last paragraph on page 4 of the English translation of JP'520. Also, the instant specification describes baking (calcining) calcium hydroxide as a method to prepare the instant catalyst and thus since JP'520 teaches such a baking step, the porous structure would be the same. See the last paragraph on instant page 9

continued on page 10. See also MPEP 2112.01. Also, evidentiary document JP'580 (the machine translation thereof) shows that heating calcium hydroxide at 390-480°C (which is very close to the 500°C temperature used in JP'520) for more than 5 minutes produces a product with a surface area greater than 5 m^2/g. See [0012]. See also MPEP 2131.01.

In regard to claim 2, Application Example 3 teaches a moisture content of 5 wt. %. When moisture contacts CaO, it reacts spontaneously (and exothermically) to form $Ca(OH)_2$ according to the following equation:

$CaO + H_2O \Leftrightarrow Ca(OH)_2$ + 488 BTU/lb CaO (63.7 KJ/mol of CaO)

(See evidentiary document US3955554 column 1, lines 54-63 and column 2, lines 48-57 and MPEP 2131.01.) Thus, a moisture content of 5 wt. % produces a calcium hydroxide content of ~21 wt. %. See the calculation below.

[On a 100 gram reaction basis:

5 g water = 0.28 moles water;

(1 mole $Ca(OH)_2$/1 mole water) x 0.28 moles water = 0.28 moles $Ca(OH)_2$;

0.28 moles $Ca(OH)_2$ x 74 grams/mole $Ca(OH)_2$ = ~ 21 g;

(21 g /100 g) x 100% = ~21 wt. %]

Response to Arguments

Applicant's arguments filed 1/23/2009 have been fully considered but they are not persuasive.

Applicant argues that JP'520 does not teach a surface area of greater than 1 m^2/g.

However the preparation method of JP'520 includes a calcination step which provides the required porous structure and a surface area in the broad range instantly claimed. See Examples 1-3 and the last paragraph on page 4 of the English translation of JP'520. Also, the instant specification describes baking (calcining) calcium hydroxide as a method to prepare the instant catalyst and thus since JP'520 teaches such a baking step, the porous structure would be the same. See the last paragraph on instant page 9 continued on page 10. See also MPEP 2112.01. Burden is on applicant to show an unobvious difference. See MPEP 2112. Also, evidentiary document JP'580 (the machine translation thereof) shows that heating calcium hydroxide at 390-480°C (which is very close to the 500°C temperature used in JP'520) for more than 5 minutes produces a product with a surface area greater than 5 m^2/g. See [0012] of the provided machine translation. See also MPEP 2131.01.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Beruto et al. teaches the production of $CaO/Ca(OH)_2$ particulates.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. ZIMMER whose telephone number is (571)270-3591. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ajz

/Steven Bos/
Primary Examiner, Art Unit 1793